



U.S. Army Aviation & Missile Com

# Army Aviation Component Tracking Program

## The Army Maintenance Management System - Aviation

*Presented to:*  
The Unique Item Tracking Committee  
(TAMMS-A)

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# TAMMS-A For Safety



***Component lifecycle linked to aircraft utilization, shelf life or events***

- Critical safety items serialized to ID source, document acceptance date
- Maintenance intervals managed through TAMMS-A tracking system
- Finite Life items removed before failure (“RC” code)
- Time Change items overhauled on schedule (“TC” code)
- Condition Change items included in the program as required by PM or AMRDEC (“CC”)





# Cradle to Grave Tracking



**ACQUISITION / TECH**

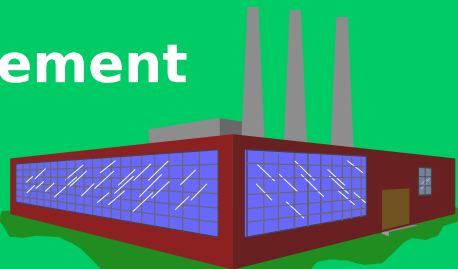
**RATA**

New Procurement

CDRL

DID

DD 250 Verification



**COMPONENT PERFORMANCE**



Field Installation/Removal

13 Million Records

**2410**

2.7 Million Tracked Parts

**REPAIR EFFECTIVENESS (Field - National)**



Organic/Contractor

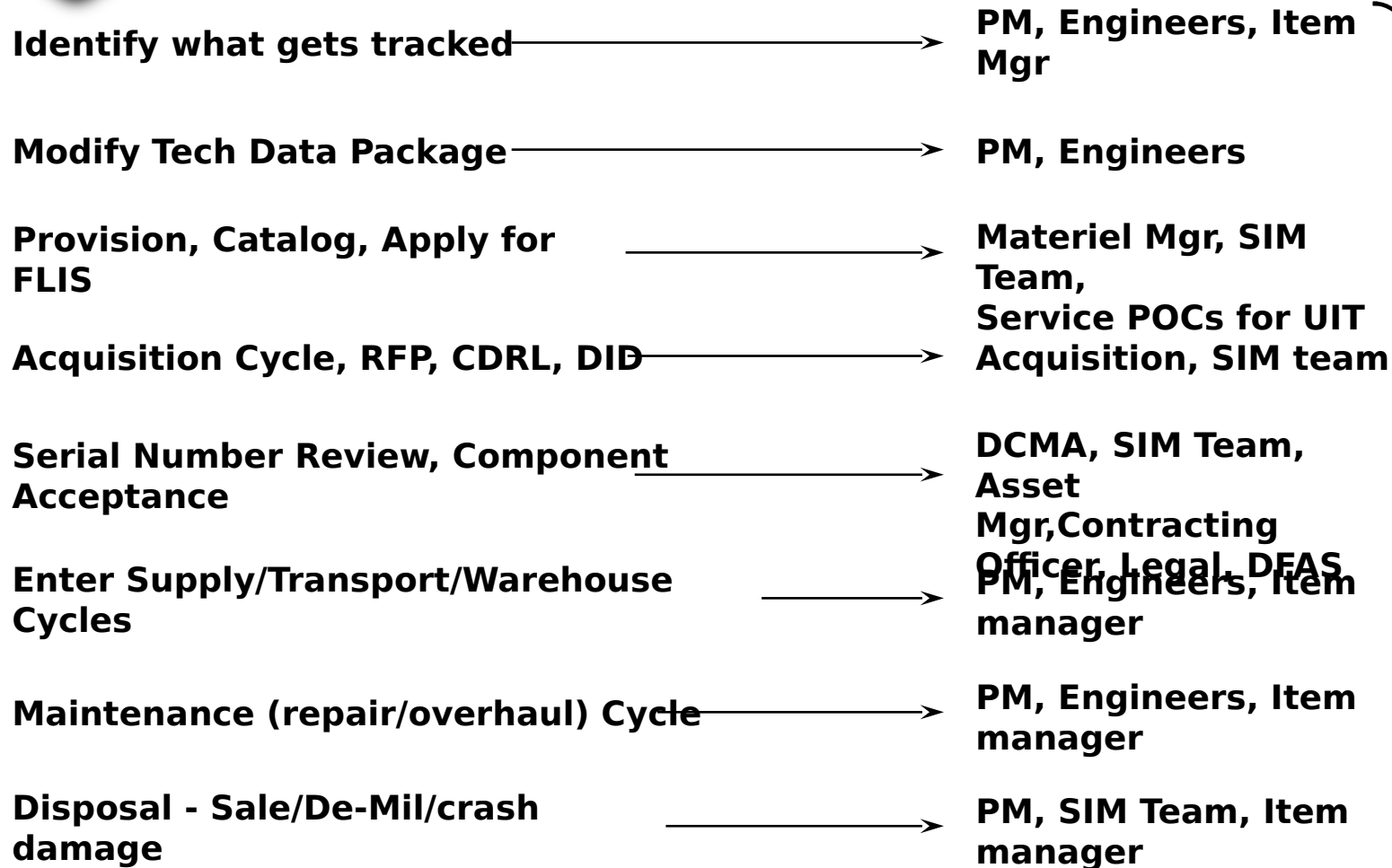
**DISPOSAL**

Remove from Inventory





# TAMMS-A Stakeholders Serialization Process



Lifecycle Acquisition O&S Cost

DCMA - Defense Contract Management Agency  
 DFAS- Defense Finance Accounting Service  
 SIM - Serialized Item Management

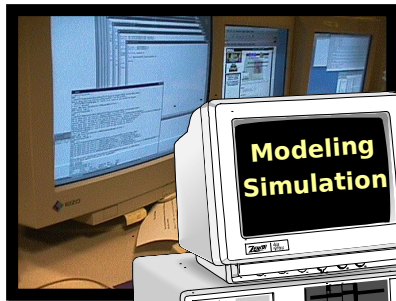




# Core Process Initiatives

## Database

- 30% Electronic
- 2.5 Million Unique Items



## Field Installation/Removal

- AMATS demo/deployment with AIT feed
- Virtual Aircraft



## Wholesale

- Automate CCAD - DLMD Backbone
  - Reduce CCAD overhead paperwork requirements
  - Improve 2410 accuracy
  - Monitor recap mandatory items
  - Improve build record accuracy, future parts availability
- Link to process analysis data collection system & development capabilities
- Joint Service Contractor Reporting Sikorsky
- Integration of AIT field/wholesale
  - RF Tag
  - Memory Button
  - Bar Code

## Acquisition

- Automated links:
- Contract lot to Serial # Block Workload increases along with accuracy
- EPDM links planned



# Serialized Item Management

*Based on a*

## **TAMMS-A**

**"Backbone" to**



**Acquisition**

**ePDM**



**Maintenance**

**Integrate**

**AIT Enabled**



**Disposal**



**Supply**



**Warehouse**



**Transportation**

**GCSS-A**  
**LMP**



Data Quality



Data Transmission

# The Army Maintenance Management System Aviation

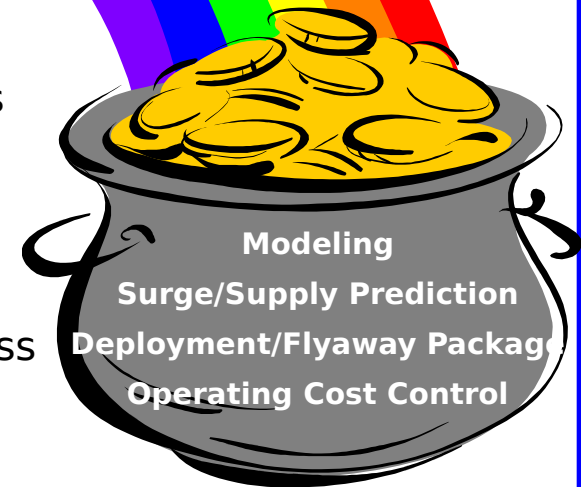
Used today for:

- SOF
- Failure Mode Analysis
- Component Life/Age Studies
- Configuration Status/Studies
- Source of Supply/Repair Analysis
- Recap & Overhaul Improvement
- Data Reconstruction in excess of \$20M/yr

## TAMMS-A

Designed for Safe Operation  
Manages:

- ✓ Maintenance Schedules
- ✓ Component Removal
- ✓ \$40 + Billion in Assets
- ✓ Over 10,000 actions/wk





# Back-Up

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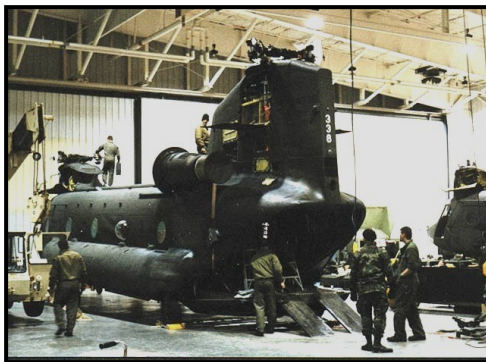




# Aviation Issues



- **Component cycle driven by finite life, maintenance interval and flying hour program may not fit standard requirements modeling**
- **Difficulty in predicting arrival of various components at depot can increase difficulty of configuration management**
- **Funding requirement changes for supply driven by maintenance concept change is difficult**





# Modeling ARMY TRANSFORMATION-



**TODAY**

~~— Reduced Footprint, System Recap, Improved~~

**Virtual Aircraft utilizes TAMMS-A Records to link serialized component performance with aircraft tail numbers, producing aircraft specific requirements forecasting**

- **Models use Component performance profiles and “flight of these virtual aircraft”**
- **Manual process can take weeks to analyze an aircraft data comes from many sources**

**CONSTRAINTS**

Data availability, access procedures and quality vary greatly

**ARDSS Tool**

- Automates access to varied data sources
- Provides screening capability for raw data
- Provides decision tools to analysts for ranking induction/distribution

**AT LAST Model**

- Flies a single aircraft, unit or entire fleet to analyze component demand
- Models age, configuration and optempo to ID predicted failures
- Used to optimize recap decisions, review planned spares requirements
- Expanded to evaluate deployment requirements - tailored deployment

Tailor

Air  
Land  
Sea

**ISSUE: what is incorporated into ERP solution, what stays at each MSC as a bridge or unique?**



# AT-LAST MODEL . . .



Life Cycle Fleet Management Tool – looks at each aircraft tail by tail.

models effect of component life / age, maintenance and supply cycle time on system cost and reliability

Utilized to Predict Expected Component

- For Recapitalization
- For Requirements Identification
- For Pre- Deployment Support
- For Optimization of Deployment Resources

- ✓ *Maintenance before deployment*
- ✓ *Identify timing of requirements*
- ✓ *Prioritize land, sea, air transport*

Predictive  
Readiness  
Model

## How?

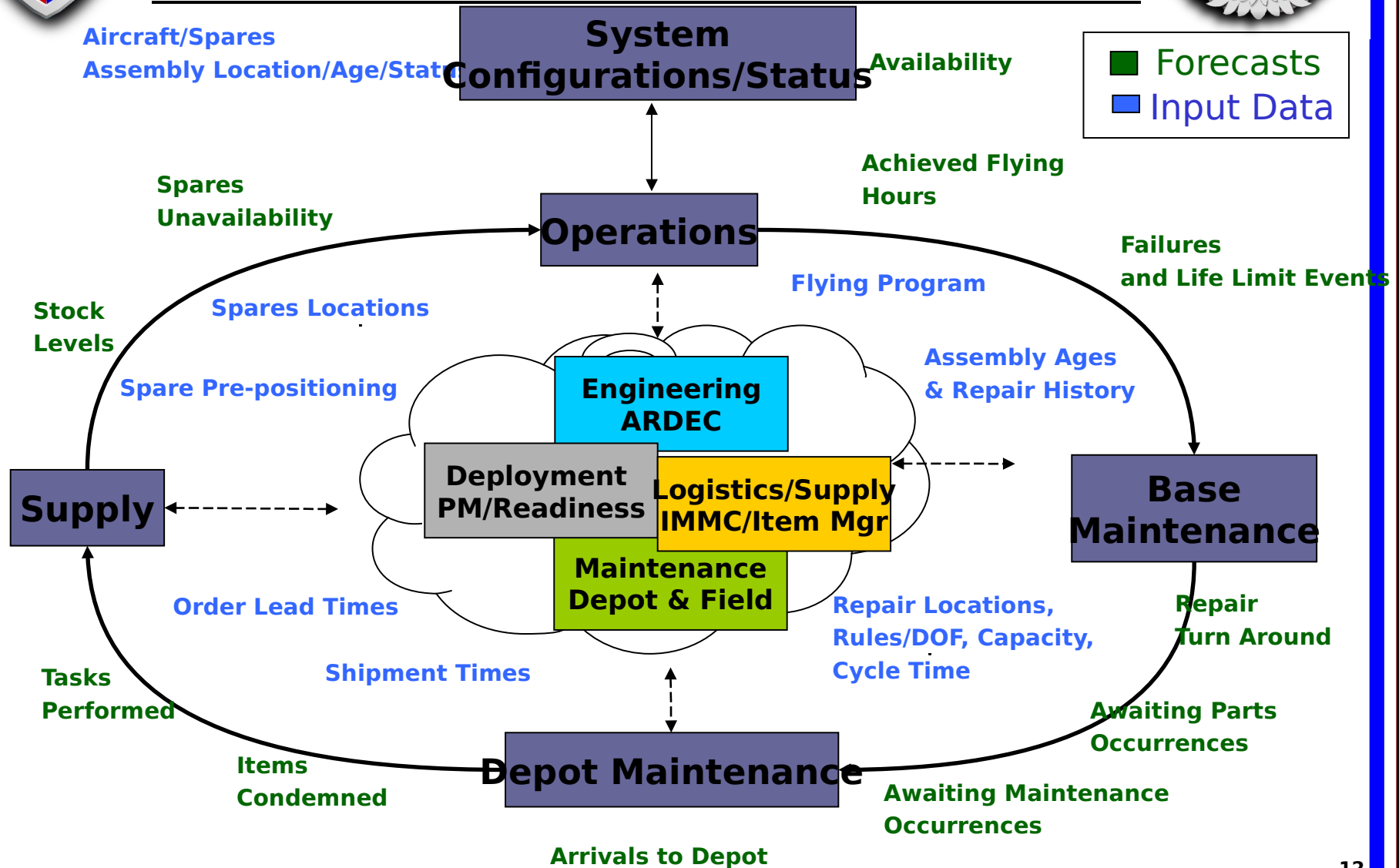
**Input: JACE, 2410, ARDSS**

**Model: Virtual Aircraft with existing log system**

**Output: Monte Carlo simulation in aging obsolescence. Distribution Played**



# AT-LAST Closed Loop Model





# Data Definitions



SAS_var	SAS_Type	SAS_Len	Var_Description	ORACLE var	Unique	Type	Len
PN	Char	32	Part Number of the Component	PN	N	VCh2	32
SN	Char	20	Component Serial Number	SN	N	VCh2	20
COPY	Char	1	DA Form 2410 Copy Number	COPY	N	Char	1
NHA_SN	Char	20	NHA Serial Number	NHA_SN	N	VCh2	20
INIT_DT	Num	8	DA Form 2410 Date (Date of Action)	DATE_2410	N	Date	
WUC	Char	14	Work Unit Code i.e. 05A01B02	WUC	N	VCh2	14
EI_SN	Char	7	End Item SN (Aircraft Tail Number)	EI_SN	N	Char	7
NHA_PN	Char	32	NHA Part Number	NHA_PN	N	VCh2	32
CAGE	Char	5	Manufacturers Contractor and Government Entity Code	CAGE		Char	5
RCODE	Char	1	Reason Gain/Loss Code COPY=2/3 DA PAM 738-751 Table #1-13	CD_EQUIP_GAIN/LOSS		Char	1
FCODE	Char	3	Failure Code DA PAM 738-751 Table#1-2(REF_DA2410_FAILURES)	CD_FAIL		Char	3
IACT_CD	Char	1	Inspection and Action Code DA PAM 738-751 ***Build LOOKUP TABLE	CD_INSPECT_ACTION		Char	1
CN2410	Char	6	DA Form 2410 Control Number	CN2410		Char	6
PROC_DT	Num	8	MCDS Processing Date	DATE_CREATED		Date	
NHA_HRS/ NHA_OPHR	Num	8	NHA_HRS for all components NHA is AC component and NHA_OPHR for NHA T-700 Components	NHA_HRS		Num	5
NOVH	Num	8	Number of Previous Overhauls	NOVH		Num	2
TSLI	Num	8	Time Since Last Installation	TSLI		Num	5
TSN/CUM_HR	Num	8	Time Since New + T700 Engine former CUM_HRS	TSN		Num	5
TSO	Num	8	Time Since Last Overhaul	TSO		Num	5
UIC	Char	6	Unit Identification Code of Original Receipt (perform the action)	UIC		VCh2	6



# Joint Service



## ELITE Extensions



Other data exchanges within H-60



24/7 to other PM's



Extension to Navy process

and infrastructure

